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goes carefully and seriously to work to account for this anomaly, and shows that, in spite of all appearances, the thread of *Selbstbesinnung* is never broken. In the Hellenistic period ("es ist ein Ruhmestitel der Forschung unserer Tage, dass sie die weltgeschichtliche Bedeutung der hellenistischen Epoche zur Anerkennung brachte") autobiography comes to its rights: die autobiographische Gattung hat im Hellenismus zuerst ihre zusammengesetzte Gestalt gezeigt, und in diesem vielköpfigen Wesen erhielt Persönlichkeitsbildung endlich das Uebergewicht. Dadurch häufig die Autobiographie nunmehr engemitt dem Prozess ihrer Zeit zusammen, mit deren Grösse und mit ihren Schranken." But the fourth and fifth centuries, which saw the decline and fall of the antique life, the life of the ancient world, were the Augustan age of autobiography. "Die Autobiographie gewinnt eine Form, mit der sie sich ebenbürtig zu den Gattungen der grossen Kunst gesellen kann." This, indeed, is the one artistic triumph of the time. "So dicht erfüllt mit Kultur die überreife Zeit war, sie hat doch aus dem bunten Leben keine eigenen Kunstformen zu gestalten vermocht, das Christentum . . . hat überhaupt bei seiner Ausbreitung in der alten Welt nicht die Kraft bewiesen, neue Literaturgattungen zu erzeugen, und selbst Augustin hat es nicht vermocht, sein Tiefstes objektiv, losgelöst vom persönlichen Erleben voll herauszu bringen. Nur die Selbstbiographie hat eine neue Blüte getrieben."

Such, in outline, are the plan and teaching of this first volume. It need not be said that the author brings a world of interesting detail; the chapters on Cicero, on Seneca and Epictetus and Marcus Aurelius, on Gregory of Nazianzus, on St. Augustine, would be interesting in themselves and apart from their context; they are doubly interesting in the context and connection that the author gives them. A technical review of the book would be the task of specialists in many fields. As a whole, it strikes the reviewer as a solid and notable piece of work.

F. E. BARBOUR.

Psychology, General Introduction, by CHARLES HUBBARD JUDD, Ph. D. New York, Scribner's, 1907. pp. xii+389.

Laboratory Manual of Psychology, pp. x+127.

Laboratory Equipment for Psychological Experiments, pp. vii.+ 257.

In the words of the author, as expressed in the preface, "This book aims to develop a functional view of mental life. . . In the second place, I have aimed to adopt the genetic method of treatment. . . In the third place, I have aimed to give the physiological conditions of mental life a more conspicuous place than has been given by recent writers of general text-books on psychology. . . In the fourth place, I have aimed to make as clear as possible the significance of ideation as a unique and final stage of evolution."

This is an excellent programme though it contains little that is new, as, indeed, it should not. A text-book in any science should have for its main purpose a clear and systematic presentation of the known facts in the science. Novel theories and individual points of view belong in special treatises.

The subject is throughout the book approached from the logical instead of the psychological or pedagogical point of view. This is not always fortunate from the teaching standpoint.

After a general introduction, to which Chapter IV on the general analysis of consciousness belongs, the author begins with the evolution of the nervous system, and then passes in successive chapters to the human nervous system and to sensations. The traditional five senses are discussed and the end-organs are illustrated, but the kinesthetic and organic sensations are scarcely mentioned.

The psychological aspect of sensations is treated in Chapter VI. This chapter really deals with perception, but this is not at once evident. The author seems to assume that the student already knows what perception is. After some general remarks that are not altogether lucid, the student is immediately launched into space perception. This is not approached from the side most familiar to the student, from space perception as simultaneously contributed to by the various senses, but is approached from the analytical side. Tactual space, auditory space and visual space are taken up in succession. It is here that the weakness of the logical, as compared with the psychological, method comes out more strongly than anywhere else in the book. A class is at a loss to know what it is all about.

The heart, and really the natural starting point, of perception is next treated in a section entitled "Unity of Objects." This section stands out as relatively clear and to the point, but it does not adequately cover the subject. The section on 'Time,' which comes next, is disappointing in its vagueness. The author makes no attempt to show what the experiences are from which one gets the concepts of 'past,' 'present' and 'future,' but devotes all his space to a discussion of the scope and origin of 'the present.'

A teacher using the book with a class would do well to begin this chapter with the section on the unity of objects, supplementing it liberally, to develop space perception independently before taking up the sections on tactual, auditory and visual space, and to omit the section on time.

The term 'experience' is used throughout the book as synonymous with consciousness, and not in its usual sense of the interaction between consciousness and the outside world. Chapter VII, entitled 'Experience and Expression,' deals with the motor nature of consciousness and with feeling. At the beginning of the chapter it is implied that all movement, even that of the internal organs, always influences consciousness. The uniform connection of consciousness and activity is brought out by numerous illustrations and references to experiments.

Attitude is indiscriminately treated both as an incipient reaction, illustrated by the attitude of attention (p. 189), and as synonymous with feeling (p. 193). This is likely to cause confusion in the minds of the class unless it is previously pointed out by the teacher.

Feeling is described as referring to 'intimate personal states, rather than experiences in which reference can be made to external objects' (p. 193). All mental states having subjective reference are here included. Feeling cold, a sensation, is put into the same class as anger and love, emotions. The terms emotion and sentiment are given passing notice in a later chapter (p. 298), but it is implied that there is little ground for them in psychology. In fact, one has the feeling all through the book that the real emotions and the higher sentiments are explained away. They have no place in Judd's scheme.

The James-Lange theory of the emotions is rejected, but no evidence is submitted on the other side beside the mere statement that "it has been shown that muscular contractions accompanying feeling take place in time after the consciousness of the feeling has been fully established" (p. 195). "Feeling in its relation to bodily activity always reflects the harmony or lack of harmony of active tendencies" (p. 196). Since the James-Lange theory has been rejected, it must be assumed that the harmony or lack of harmony is only the occasion for arousing feeling, but this seems not always to be strictly adhered to (pp. 200, 204).

No inherent qualitative difference in the feelings as such seems to

be recognized. Are not anger, love, sympathy, æsthetic feeling, etc., distinct characteristics given in the native equipment? One would think not, from much of Judd's discussion in this chapter, especially the discussion on the appreciation of art and harmony (pp. 203-211). Just what is the source of these appreciations is not made clear, but they are not taken to come from sensation. In the chapter on instincts, native endowment for these capacities seems to be granted. This makes the treatment appear chaotic, but the psychology of the feelings must remain vague and chaotic till more is known and accepted regarding the functions of the brain. It will no doubt be found that the capacities for the fundamental feeling qualities have definite localizations in the cortex.

Instinct and habit form the subject of the next chapter. Comparatively little space is given to the instincts and no attempt is made to enumerate them. This is not surprising, for psychologists are not agreed as to what the fundamental instincts are, but until these are known psychology, as a science, can make little progress. They comprise the foundation of the science. We now have little more than opinions as to what the fundamental qualities of mind are, what is instinctively given and what is derived, what are the native capacities and at what point organization due to education and training begins.

Memory and ideas form the basis of the next chapter. This is an unusual combination of subjects and is of doubtful success. On page 241 ideas are described as modified memory images, and number forms are injected (p. 242) as evidence of the subjective character of ideas. But on page 244 f. ideas are described as the product of selective attention or analysis and abstraction, and this without any previous discussion of the nature of selective attention. In fact, selective attention and its implications are treated nowhere in the book, and it is this that makes Judd's treatment of the ideational processes so mystical and vague. It is minus its cornerstone.

The principles of association are briefly discussed in connection with memory. Scarcely a page is given to this subject, which is so fundamental in all mental organization. Two principles are recognized, contiguity and similarity, and no attempt is made to reduce them to one.

In training the memory, natural retentiveness and method of memorizing are not distinguished (p. 234). This leaves one in doubt as to just what the author means when he says that memory can be improved, but he seems to imply that natural retentiveness can. No evidence on the point is submitted.

The chapter on language follows the chapter on memory and ideas, and precedes the one on imagination, conception and reasoning. Since oral language is conditioned by conception and the higher thought processes, its exposition should clearly follow the discussion of these topics. Oral language also presupposes an exposition of selective attention. The chapter, however, ranks above the average in the book. The development of language, both oral and written, its social implications, and the manner in which words convey meaning are brought out.

In the chapter on imagination and the formation of concepts we again have an unusual and arbitrary combination of subjects. Imagination is closely related to memory, and ideas in their usual meaning are closely related to concepts, but these subjects are not so joined by our author.

Imagination is described as the radical change of memory images in the process of recall (p. 275). Individual variations in imagery are treated in connection with memory (p. 232). The personifying tend-

ency of primitive people is treated as the result of imagination rather than the result of uncritical perceptive inference, as it is now being regarded by anthropologists and historians. Imagination no doubt enters here after the process is started, but its beginning rests on a naive assumption in which imagination has little or no place.

The function of the imagination in science is next set forth. Where empirical tests are inapplicable to imagined theories, their test is said to be "coherency of internal organization" (p. 277). Whether the author means here a mere internal congruity of parts, or that the theory must square with all known facts is not clear, but he seems to mean the former. This is indicated by the way he accounts for the postulation of the ether. "It is demanded in scientific considerations in order to make the idea of the solar system and the universe a coherent thinkable idea" (p. 278). Astronomers and physicists always convey the idea that the postulation of the ether is demanded by the undulatory theory of light,—something must undulate.

The development of a scientific concept is illustrated by the growth of the atomic theory and by the theory of gravitation (pp. 282-4). Such a concept he seems to identify with a scientific theory. It is defined as a scientific construct. Used in this sense, conception is not easily distinguished from imagination, and the distinction the author draws is a relative one only. "The image factor has become too attenuated, and the relational factor too important, to justify giving the construct a name which emphasized the image" (p. 285).

In the usual sense of a symbol standing for a general notion or carrying meaning, the term concept is also used (p. 287-8). This phase of the subject is treated at some length in the chapter on memory and ideas, p. 237 f., and again in the chapter on language, p. 266 f., but without applying the term concept or conception to it. Judgment and reasoning follow the treatment of concepts.

To the concept of the self an entire chapter is devoted. The chapter on the whole is probably the most abstract and obscure in the book, owing in part, no doubt, to the nature of the subject. A good point is made, one that is seldom made explicit by psychologists, when the author says that in addition to the attributes of other concepts, that of the self "is characterized, also, by a unique type of activity which we do not know to exist in any of the forms of reality about us, other than personalities like ourselves. This type of activity we describe when we use the word 'consciousness'" (p. 311). Much is made of the unity of the self and its relation to the conceived unity of the external world. The author seems to assume that every one thinks of the world as a unified whole and that this unity is read into it because of the unity of the self. This is doubtful. Many people are distinctly conscious of the time when they gain a unified conception of the world, not having had it before. It usually comes as the result of study and experience, but in some it comes so gradually that it seems always to have been there.¹

The remaining three chapters,—XIII, Impulse and Voluntary Choice; XIV, Forms of Dissociation; and XV, Applications of Psychology,—are among the best in the book, but lack of space forbids a detailed examination of merits and demerits. The discussion of voluntary choice is left somewhat obscure because the author assumes that the reader is familiar with the free-will controversy, which the beginning student seldom is. The question at issue is nowhere clearly stated, which leaves the student at sea. This omission of a statement of the problem under discussion is a frequent fault of our author and accounts for

¹ Cf. W. C. Ruediger: The Period of Mental Reconstruction, *Am. Jour. of Psych.*, July, 1907.

much of the vagueness throughout the book. Pedagogically this is a serious fault and seriously hampers the usefulness of the book as a text.

The laboratory manual of psychology gives a good selection of typical experiments for a laboratory course, and is bound to prove useful, especially to beginning teachers of psychology. The apparatus to be used with these experiments and suggestions for setting it up and for carrying out the experiments are given in the volume on laboratory equipment.

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The Psychology and Pedagogy of Reading, by EDMUND BURKE HUEY, A. M., Ph. D. The Macmillan Company, New York, 1908. pp. 469.

Dr. Huey's book is well written, largely devoid of technical expressions and particularly well adapted to the needs of the class of readers which it aims to reach.

The book is divided into four principal parts: (I) The psychology of reading (9 chapters). (II) The history of reading and of reading methods (4 chapters). (III) The pedagogy of reading (6 chapters). (IV) The hygiene of reading (2 chapters).

Chapter I, taking the form of an introduction, deals with the mysteries and problems of reading from its beginning in Babylonia, Egypt, and Crete, more than 7,000 years ago. Chapter II treats of the work of the eye in reading. The eye, as is well known, does not move continuously in reading but by a succession of quick, short movements, with one usually unbroken return movement. As to the rate of movement, the results obtained by Dearborn, who used Dodge's method of photographic registration, are accepted. Chapter III investigates the amount of reading matter perceived during a reading pause. This has been measured, with fairly congruent results, by Erdmann and Dodge, Messmer, Cattell, Zeitler and others. It varies with the reading matter. There are limiting factors both on the side of eye structure and function, and on the psychic side. In consequence of the former, the larger the amount read during a reading pause, the more inevitably must be the reading by suggestion and inference from clews of various kinds. The deficient picture of the page is filled in and retouched by the mind; from which it follows that reading must go on by other means than the recognition of letters, and that the number of necessary movements and pauses per line will vary with the nature of the matter read. On the psychic side we are confronted by the narrowness of the attention span and by a third limiting factor, the necessity of interpretation.

The fourth chapter bears the caption "Experimental Studies upon Visual Perception in Reading." Herein are considered the mental processes concerned in perceiving what is presented on the page, and the means by which the mind takes note at such a rapid rate of what is there. The theory of reading by letters is obsolete. Already early experiments by Cattell had led to the conclusion that we read in word-wholes, or sometimes even phrase and sentence wholes. The results of experiments by Erdmann and Dodge argue strongly for the theory of the perception of word-wholes. As these authors point out it is not the constituent parts of any given form that make it recognizable, but the familiar total arrangement. While, of course, it is always possible to analyze the whole into its parts, we do not do this in actual reading any more than in regarding a landscape. Goldscheider and Müller ascertained that there are so-called determining and indifferent letters in words. With increase of familiarity fewer and fewer clews suffice to touch off recognition of a word or phrase. Zeitler's experiments led to the conclusion that the apperception of domi-